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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/458,897
Filing Date: December 10, 1999
Appellant(s): GIAMMARRESI, TOM

EAMON J. WALL
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/24/08 appealing from the Office action mailed 06/23/08.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,195,680	GOLDSZMIDT ET AL.	2-2001
5,812,748	OHRAN ET AL.	9-1998
5,918,017	ATTANASIO ET AL.	6-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

3. Claims 1 and 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Goldszmidt et al (6,195,680)** in view of **Ohran et al (5,812,748)**.

As to Claim 1**, Goldszmidt** discloses a method of distributing and sharing processing loads and increasing fault tolerance between provider equipment and subscriber equipment of an interactive information distribution system (summary; Col. 3, lines 12-55), comprising the steps of:

Receiving, at a headend, a request for video information from said subscriber equipment (Col. 5, lines 25-31; Col. 6, lines 40-60);

Executing a video session from at least one of a plurality of managing modules on a primary head-end controller at the headend (Control server 1.1 and two or more streaming servers 1.2, 1.3, of Fig. 1, col. 6, lines 7-31 in which is described in **Col. 9, lines 48-52 of US 5918017 incorporated by reference in Goldszmidt, see Fig. 10 with two of Gateway/TCP-Router nodes, 1st one is 1050 configures as a primary and the 2nd one 1030 as a backup**);

Dedicating, at the head-end, at least one secondary headend controller (Control server 1.1 of Fig. 1, col. 6, lines 7-31 and the **2nd Gateway/TCP-Router node, i.e., 1030 as a backup which is described in Col. 9, lines 48-52 of US 5918017**

incorporated by reference in Goldszmidt) respectively having the at least one managing module (see Col. 9, lines 48-52 of US 5918017 with el. 320, 340 and 1020) as a resource for executing said video session, where the executing the video session comprises concurrently processing different sub-parts of session-state data of the video session at the primary head-end controller and the at least one secondary head-end controller, using a managing module (Manager 320; see Col. 7, lines 3-Co1.9, lines 8 in which is further described in the configuration of Fig. 10 of an encapsulated cluster with high availability Gateway/TCP-Router node, Col. 9, lines 48-60 of US 5918017 incorporated by reference in Goldszmidt) associated with the primary head-end controller and the at least one secondary head-end controller;

Storing the session-state data from the executed video session on at least one storage device (Col. 9, lines 66-Col. 10, lines 22 of US 5918017 incorporated by reference in Goldszmidt); and

Streaming, from a stream server (Fig. 1, el. 1.2 and 1.3; Col. 5, lines 32-35), the video information to the requesting subscriber equipment during a normal mode of operation (col.3, lines 6-40, col.4, line 29-col.5, line 1+, col.6, line 8-col.7, line 22 and col.8, line 7-col.9, line 1+), note that server (Fig. 1-3) which performs concurrent processing of session-state data of the video session using a distributed managing module associate with the server controller, i.e., el. 2.1 of Fig. 2 or 3.1 of Fig. 3 by maintaining the delivery of the multimedia stream to the client 2.5, e.g., fig. 3(a) the original connection link 3.9 fails, the control server 3.1 redirects the requested multimedia stream from server 3.6 to server 3.7 through link 3.12 under the request

from the client agent 3.5 where the client continuously receives the real-time multimedia stream with minimal disruption.

Goldszmidt does not clearly disclose the secondary dedicating head-end controller (similar to server controller 2.1 of Fig. 2 or 3.1 of Fig. 3) having the same managing module for concurrently processing different sub-parts of the session-state data of the requested video session through a distributed managing module environment.

However, **Ohran** discloses a dedicating 2nd server controller in which the processing of any (sub-parts) session-state is processed through distributed managing module concurrently on both primary server and secondary dedicated server in which the distributed managing module is associated with both primary and secondary dedicated server (see Fig. 7; Col. 11, lines 51-Co1.12, line 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Goldszmidt to have distributed managing module concurrently active on both servers (for example, two (2) server controllers, i.e., a primary server controller 3.1 and secondary dedicating server controller 3.1' that are able to perform concurrent processing of session-data of the video session (requested video session from a client) using a distributed managing module on both primary and secondary dedicated server), as taught by Ohran so to fully utilize the resources of both redundant servers, as suggested by Ohran (Col. 12, lines 1-6) and Specifically increase the system fault-tolerance by reducing the down-time to zero (0).

As to claim 3, Goldszmidt further discloses wherein said executing said video

session further comprises executing said video session on at least one non-distributed managing module (Executor 340, Fig. 5, Fig. 10, and Col. 4, lines 10-Co1.5, lines 13 of US 5918017 incorporated by reference in Goldszmidt) associated with said primary head-end controller.

As to claim 4, Goldszmidt in view of Ohran further discloses the steps of: processing said session-state data through at least one distributed managing module concurrently on the primary head-end controller and the at least one secondary head-end controller and the at least one secondary head-end controller, wherein the at least one distributed managing module on the primary head-end controller and the at least one secondary head-end controller is in active mode ("co: standby", see Ohran Col. 11, lines 52-65) and processing the session state data from the at least one non-distributed managing module on the primary head-end controller (Executor 340, Fig. 5, Fig. 10 of US 5918017 incorporated by reference in Goldszmidt), wherein the at least one non-distributed managing module on the primary head-end controller is in an active mode (Col. 6, lines 50-57 and Col. 9, lines 48-60 of US 5918017 incorporated by reference in Goldszmidt), and wherein the at least one non-distributed managing module on the secondary head-end controller is in a standby mode (Col. 6, lines 20-31 in Goldszmidt).

As to claim 5, Ohran further discloses a method comprising the steps of: processing said session-state data produced by said primary headend controller via said at least one secondary headend controller in a failure mode of operation, wherein said primary head-end controller becomes inoperative (Col. 11, lines 64-67).

As to claim 6, Goldszmidt (Col. 6, lines 16-31 and see Col. 10, lines 65-Co1.11,

lines 40 of US 5918017 incorporated by reference in Goldszmidt) in View of Ohran further discloses comprising the steps of:

streaming video information from a stream server to an access controller in said normal mode of operation, wherein said primary head-end controller manages said video session between said stream server and at least one access controller; and streaming video information from said stream server to said access controller in said failure mode of operation, wherein said secondary head-end controller manages said video session between said stream server and said access controller.

As to claim 7, Goldszmidt inherently stores the session-state data produced by said primary head-end controller on at least one non-volatile storage device coupled said primary headend controller (Col. 9, lines 66-Co1.10, lines 5);

Goldszmidt does not disclose storing said session-state data produced by said at least one secondary head-end controller on at least one non-volatile storage device coupled Io said primary head-end controller.

Ohran (Fig. 7) discloses the session-state data produced by said primary head-end controller (server 2310) on at least one non-volatile storage device (2314) coupled said primary headend controller (server 2310) and storing said session-state data produced by said at least one secondary head-end controller (2320) on at least one non-volatile storage device (2315) coupled to said primary head-end controller (Col. 12, lines 7-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Goldszmidt to have the primary Gateway/TCP-

Router node to store both session-state data from the secondary Gateway/TCP router and from itself, as taught by Ohran, so to increase the high-availability of the redundant system by avoiding the substantial performance degradation experienced by the non-failing server during recovering mode, as suggested by Ohran (Col. 3, lines 56-Co1.4, lines 3).

As to claim 8, Goldszmidt in view of Ohran (Col. 12, lines 7-16) further discloses replicating said stored session-state data from one of said plurality of storage devices coupled to said primary head-end controller, to each of the remaining storage devices of said plurality of storage devices coupled to said at least one secondary head-end controller; and wherein said at least one secondary headend controller retrieves said session-state data processed by said managing modules of said primary head-end controller (Ohran; Col. 12, lines 7-16)for continuing said video session with said subscriber equipment (Col. 10, lines 5-Col. 11, lines 40 of US 5918017 incorporated by reference in Goldszmidt).

As to claim 9, Goldszmidt in view of Ohran, as discussed in claim 7, does not clearly disclose the use of a "volatile memory device coupled to said primary head-end "for storing said session-state data produced by said primary head-end controller and storing said session-state data produced by said at least one secondary head-end controller on said volatile memory device coupled to the primary headend controller.

Official Notice is taken that using volatile memory, i.e., RAM, for the purpose of caching data is notoriously well known the art for the benefit of increasing processing performance because the latency time to access data stored in the cache (volatile

memory) is much less than the latency time to access data stored in the non-volatile memory (Disk Drive).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Goldszmidt in view of Ohran to use volatile memory instead of non-volatile memory so to increase performance to have the primary Gateway/TCP-Router node to store both session-state data from the secondary Gateway/TCP router and from itself, as taught by Ohran, so to further increase the performance time and the high-availability of the redundant system during recovering mode.

As to claim 10, limitation "replicating said stored session-state data from said volatile memory device coupled to said primary headend controller, to at least one volatile memory device coupled to said at least one secondary head-end controller; and wherein said at least one secondary head-end controller retrieves said session-state data processed by said managing modules of said primary head-end controller for continuing said video session with said subscriber equipment" is further met by Goldszmidt in view of Ohran, as discussed in claims 10 and 8, in which Goldszmidt in view of Ohran' s system support concurrent mirroring and consistency between the fault-tolerance servers.

As to claim 11, the claimed “In an interactive video distribution system including information…” is composed of the same structural elements that were discussed with respect to claim 1.

Claim 12 is analyzed with respect to method claim 9.

As to claim 13, Goldszmidt further discloses a primary head-end controller and at least one secondary head-end controller (Control server 1.1 of Fig. 1, col. 6, lines 7-31 in which is described in Col. 9, lines 48-52 of US 5918017 incorporated by reference in Goldszmidt, see Fig. 10 with two of Gateway/TCP-Router nodes, Ist one is 1050 configures as a primary and the 2nd one 1030 as a backup);

As to claim 14, Goldszmidt further discloses in a normal mode of operation, the primary head-end controller interacts with the stream server to provide the video information to the subscriber equipment, and the at least one secondary head-end controller remain in a standby mode; and in a failure mode of operation, the primary head-end controller is inoperative, and at least one secondary head-end controller interacts with the stream server to provide video information to the subscriber equipment (Fig. 1; Col. 5, lines 22-65 and Col. 6, lines 20-31 in Goldszmidt).

As to claim 15, Goldszmidt further discloses at least one non-distributed managing module, for processing session state data by the primary head-end controller (Executor 340, Fig. 5, Fig. 10 of US 5918017 incorporated by reference in Goldszmidt).

Claims 16 and 17 are analyzed with respect to method claims, 5, 6 and 8.

As to claim 18, in view of the above discussion, Ohran further discloses the use of a centrally networked storage device coupled to said primary server and a secondary server, for centrally storing the session state-data (see Fig. 2; Col. 6, lines 54Co1.7, lines 6) for the purpose of sharing.

As to claim 19, in view of the above discussion, Ohran further discloses a plurality of local storage devices, coupled to the primary server and the secondary

server, for locally storing the session-state data produced by the plurality of managing module (see Fig. 7).

As to claim 20, apparatus claim 20 is analyzed with respect to method claim 8.

As to claim 21, Goldszmidt (Col. 5, lines 50-Co1.6, lines 31) in view of Ohran (Col. 11, lines 52-67) further discloses in a failure mode of operation, the at least one secondary server retrieves the replicated session-state data stored on the remaining plurality storage device, for continued interaction with the stream server to provide the video information to the subscriber equipment.

(10) Response to Argument

With respect to claims 1 and 3-21 rejected under 35 U.S.C. 103(a) as being unpatentable over **Goldszmidt et al (6,195,680)** in view of **Ohran et al (5,812,748),** the Examiner disagrees that the rejection should be reversed. Appellant discusses the prior art of record and the claimed invention and argues that the prior arts of record do not teach the claims limitations that "...The Examiner failed to establish a prima facie case of obviousness because Goldszmidt in view of Ohran fails to teach or suggest all of the claim limitations of independent claims 1 and 11" (see page 11 of 25+ of Appellant's Brief).

Appellant's traversal of the combination of the plurality of references stem primarily from Appellant's mischaracterization of the Goldszmidt reference, where Appellant states that "…Goldszmidt and Ohran does not teach or suggest concurrently processing different sub-parts of session-state data or said video session at said

primary head-end controller and said at least one secondary head-end controller..." (see page 11 of 25+ of Appellant's Brief), that "...Goldszmidt does not teach any concurrent processing of sub-parts of session-state data for a session of a client's request....control server acts as a gateway for a number of client requests and redirect requests between the two sets of streaming servers..." that "...The Examiner appears to consistently either disregard the limitation of 'concurrently processing' or miss-interpret the limitation of 'concurrently processing' as 'continually processing'" that "...the Examiner acknowledges that Goldszmidt fails to teach or suggest concurrently processing different sub-parts of session-state data of said video session at said primary head-end controller and said at least one secondary head-end controller." that "...Ohran also fails or suggest concurrently processing different sub-parts of session-state data of said video session at said primary head-end controller and said at least one secondary..." etc. (see page 13 of 25+ of Appellant's Brief).

First the Examiner respectfully disagrees that the rejection is not proper. Goldszmidt clearly discloses in Figs. 1-3, a server architecture (1.7) which performs concurrent processing of session-state data of the video session using a distributed managing module associate with the server controller, i.e., el. 2.1 of Fig. 2 or 3.1 of Fig. 3 by maintaining (without disruption or delay) the delivery of the real-time multimedia stream to the client 2.5, for example Fig. 3(a) the original connection link 3.9 fails, the control server 3.1 redirects the requested multimedia stream from server 3.6 to server 3.7 through link 3.12 **under the request from the client agent 3.5** where the client continuously receives the real-time multimedia stream with minimal disruption.

Goldszmidt discloses a Server Architecture (1.7), includes a Control Server (head-end controller) for receiving Client requests and distributes different sub-parts of the video session to two or more Streaming Servers 1.2, 1.3, etc., each with its own controller(s) (at least one secondary control server) and concurrently processing different sub-parts of session-state data of the multimedia session using control server and at least one secondary control server. Goldszmidt further discloses that, "...**a receiver (also called a client) automatically detects load imbalances and/or failures (complete or partial) and dynamically switches to an alternate server in order to continue receiving the real-time multimedia stream with minimal disruption…" that "...maintain uninterrupted playback of the multimedia streams..."** (col.3, lines 6-40, col.4, line 29-col.5, line 1+, col.6, line 8-col.7, line 22 and col.8, line 7-col.9, line 1+). Goldszmidt does not disclose a dedicated secondary head-end controller (similar to server controller 2.1 of Fig. 2 or 3.1 of Fig. 3) having the same managing module for concurrently processing of the session-state data of the requested video session through a distributed managing module environment. To cure this deficiency, in the same field of endeavor, Ohran discloses a dedicating 2nd server which processes any (sub-parts) session-state through a distributed managing module concurrently on both primary server and secondary dedicated server in which the distributed managing module is associated with both primary and secondary dedicated server (see Fig. 7; Col. 11, lines 51-Col. 12, line 6). As clearly discussed above and also in the rejection, the Examiner has not disregard limitation of "…concurrently processing…" as argued by

Appellant. Hence, the 103(a) rejection of Goldszmidt in view of Ohran of the claims is proper, meets all the claims limitations and should be sustained

As to Appellant's arguments that "…Examiner failed to establish a prima facie case of obviousness…" the Examiner respectfully disagrees. As discussed above, Goldszmidt meets most of the claims limitations, concurrent processing of session-state data of the video session using a distributed managing module associate with the server controller, i.e., el. 2.1 of Fig. 2 or 3.1 of Fig. 3 by maintaining (without disruption or delay) the delivery of the real-time multimedia stream to the client 2.5, for example Fig. 3(a) the original connection link 3.9 fails, the control server 3.1 redirects the requested multimedia stream from server 3.6 to server 3.7 through link 3.12 **under the request from the client agent 3.5** where the client continuously receives the real-time multimedia stream with minimal disruption…., but silent as to a dedicated secondary server controller. However this deficiency is disclosed in Ohran. In any event, the Appellant is reminded that a reference can be relied upon for all that would have been reasonably suggested to one of ordinary skill in the art, including non-preferred embodiments (see MPEP 2123). Hence, while Goldszmidt teaches preferred or alternate embodiments, Goldszmidt teaches all the claims limitations, the only teaching absent from Goldszmidt is a dedicating 2nd server which processes any (sub-parts) session-state through a distributed managing module concurrently….for which Ohran has been relied upon. Hence, a prima facie case of obvious is made because all the elements are known (as shown in the prior arts), and could be combined by known methods. This will result in a predicted results of a system having two (2) server

controllers, i.e., a primary server controller 3.1 and secondary dedicating server controller 3.1', as taught by Ohran, which performs concurrent processing of any session-data of the video session (requested video session from a client) using a distributed managing module on both primary and secondary dedicated server controllers and to further utilize the resource of both redundant server controllers. Moreover, the combination increases the system fault-tolerance by reducing the downtime to zero (0). With respect to the official notice taken by the Examiner as to claim 9, Examiner hereby cites **Perlman et al (5,978,381),** which disclose a caching server, which caches requested data via other servers (figs.1, 2 and col.4, lines 17-46). Hence, the 103(a) rejection of all the claims, is proper, meets all the claims limitations and should be sustained.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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